

## Patent Abstracts of Japan

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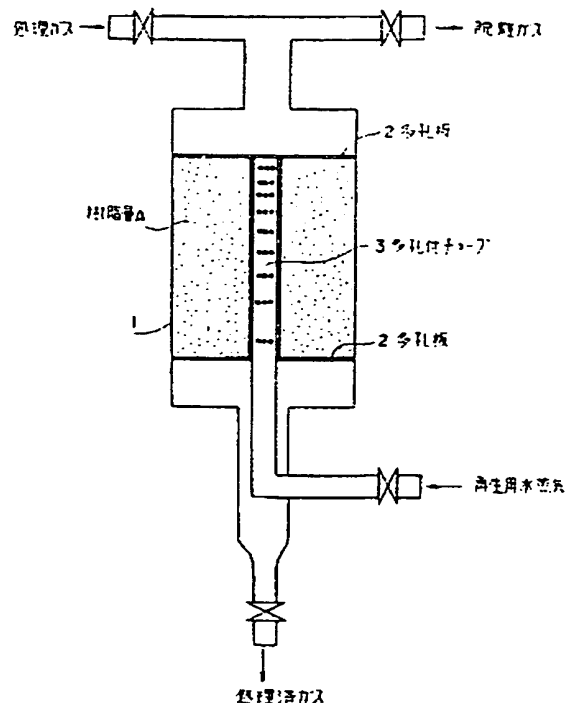
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TITLE : DEVICE FOR REMOVING CARBON DIOXIDE BY SOLID AMINE



**ABSTRACT :** PURPOSE: To perform the regeneration of solid amine resin with steam in a short time by arranging a tube fitted with many holes to the center of a solid amine resin layer and deciding the perforation density in proportion to the concn. of CO<sub>2</sub> at a time for gas absorption.

CONSTITUTION: Upper and lower perforated plates 2, 2 are arranged in a reactor casing 1 and a tube 3 fitted with many holes is provided to the center of the casing 1 vertically provided between the perforated plates 2, 2. A resin layer A is provided between the circumference of the tube 3 and the casing 1 and between the perforated plates 2, 2. Since the density of hole number is made different in the axial direction, regenerating steam can be efficiently fed in proportion to the concn. of CO<sub>2</sub> in respective adsorbing zone parts (in proportion to the amount necessary for the quantity of heat of CO<sub>2</sub> dissociation). Since CO<sub>2</sub> is adsorbed to the solid amine resin layer A from the upstream side of gas at the time of absorption, adsorption attains saturation in the upstream side and reduced as it proceeds to the downstream side and a nonadsorbing layer exists in the lowermost stream side and therefore unnecessary regeneration performed heretofore can be improved.

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